From: Tzhone, Stephen
To: Rauscher, Jon; Khoury, Ghassan
Cc: Sanchez, Carlos; Meyer, John; Villarreal, Chris
Subject: draft Arkwood summary for HQ
Date: Wednesday, June 10, 2015 7:25:00 AM

Jon, Ghassan: This is my draft summary to HQ based on the sampling results and the June 9, 2015 risk assessment memo. Any comments? Please let me know, I plan to send this week.

<draft>

Hi Christine, Marlene, Robin,

I've been asked to summarize the R6 position on Arkwood and to obtain your concurrence as OSRTI representatives. Currently, we are in a dioxin re-evaluation for this former 18-acre wood treater. The 1990 ROD implemented an industrial soil remediation goal for dioxin at 20,000 ppt, via excavation, incineration, and 6" cover.

As part of the dioxin re-evaluation, we wanted to answer this main question:

Main Question: Are the remaining site soils with dioxin principal threat wastes?

Current R6 conclusion: No, the remaining site soils with dioxin are not principal threat waste. Rationale: The 1991 principal threat waste guidance defines PTWs as "those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur". Thus, our conclusion was based on:

1) Are the remaining soils with dioxin (up to 16,750 ppt underneath the cover) highly toxic?

Current R6 position: No, remaining soils with dioxin up to 16,750 ppt are not highly toxic. Rationale: The 1991 PTW guidance calls for using 10-3 as a treatment marker. Using the current Tier 3 RSL value (based on Cal EPA) of 22 ppt = 10-6, we equated that to 22,000 ppt = 10-3. Since the remaining site soil levels with dioxin are under 10-3, it would not be PTW based on the 10-3 marker. We do note that although the 1991 guidance did not mention the use of hazard quotients or recommend treatment markers based on hazard quotients, consideration on the subject would be helpful in a future update to the guidance due to the existence of the Tier 1 value for non-cancer and that current national dioxin PRGs are based on non-cancer.

2) Are the remaining soils with dioxin highly mobile?

Current R6 position: No, the remaining soils with dioxin at the site are not highly mobile. Rationale: Dioxin readily binds to soil and has very low water solubility. At the site, the remaining soils with dioxin at 16,750 ppt are underneath the 6" cover, as required by the 1990 ROD remedy. As an extra precaution, we are checking for dioxin colloidal transport in

gw.

3) Can remaining soils with dioxin be reliably contained?

Current R6 position: Yes, remaining soils with dioxin can be reliably contained. Rationale: We utilized incremental sampling and sampled the cover, along with other areas that are uncovered. For the cover, the validated PRP incremental sample (for all sampling units) is 610 ppt. The EPA split samples (done on two of the sampling units) is 288 ppt and 333 ppt. Thus, sampling evidence shows that the integrity of the cover has not been compromised since the original remedy was implemented over two decades ago.

4) Would the remaining soils with dioxin present a significant risk to human health or the environment should exposure occur?

Current R6 position: Since the completion of the 1990 ROD remedy, industrial worker exposure has not occurred and is not occurring. Thus, we have answers for two exposure scenarios:

For the actual past, current, and likely future maintenance worker exposure: No, the remaining soils with dioxin would not present a significant risk should exposure occur. Rationale: The maintenance worker exposure is set at 12,100 ppt. If remedy components were intact, there would be no exposure. If remedy components were not intact, the maintenance worker can potentially be exposed to remaining soils with dioxin at 16,750 ppt underneath the cover. The risk difference between 12,100 ppt and 16,750 ppt is not significant (if significance is defined by being more than an order of magnitude).

For a theoretical future industrial worker exposure: Yes, the remaining soils with dioxin could present a significant risk if exposure occurs. Rationale: The industrial worker exposure is set at 730 ppt. If remedy components were intact, there would be no exposure. If remedy components were not intact, the industrial worker can potentially be exposed to the remaining soils with dioxin at 16,750 ppt underneath the cover. The risk difference between 730 ppt and 16,750 ppt could be considered significant (if significance is defined by being more than an order of magnitude); however, sample results show that all remedy components remain in place and intact, including ICs to ensure exposure is controlled.

Attached is the current draft soil and gw reports, along with our comments. Please respond with your concurrence status on the above current R6 conclusion/positions.

Thanks,

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